

Application No.: 09/826,583
Applicant: Marc Unger, et al.
Title: MICROFABRICATED ELASTOMERIC VALVE AND PUMP SYSTEMS
. Sheet 3 of 52

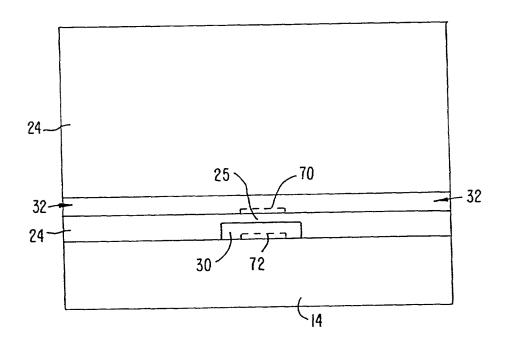


FIG. 7B.

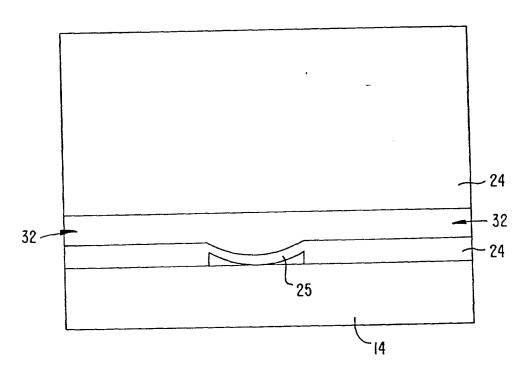
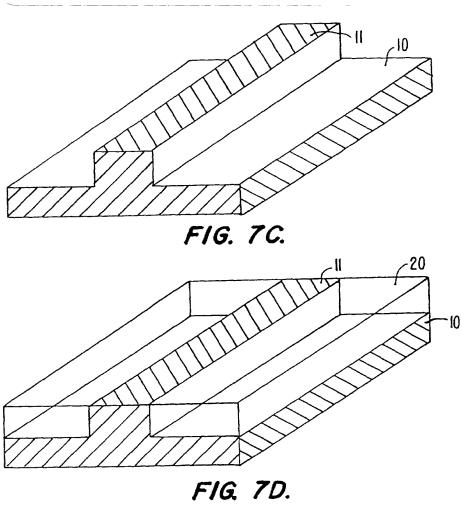
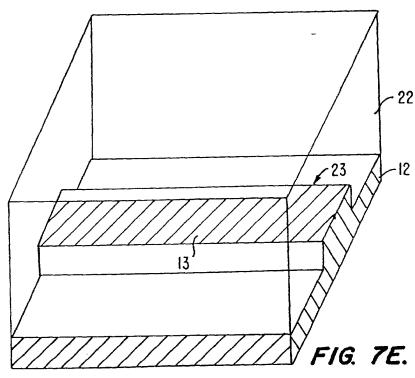


FIG. 7H.

Application No.: 09/826,583
Applicant: Marc Unger, et al.
Title: MICROFABRICATED ELASTOMERIC VALVE AND PUMP SYSTEMS
Sheet 4 of 52





Application No.: 09/826,583
Applicant: Marc Unger, et al.
Title: MICROFABRICATED ELASTOMERIC VALVE AND PUMP SYSTEMS
Sheet 5 of 52

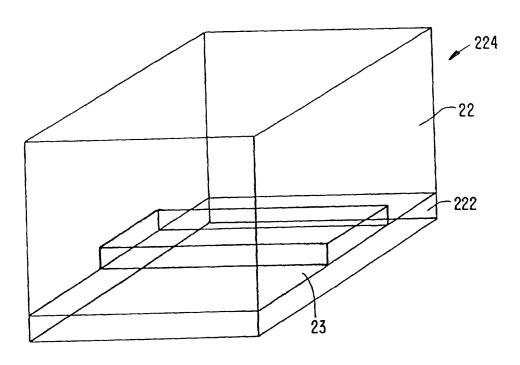


FIG. 7F.

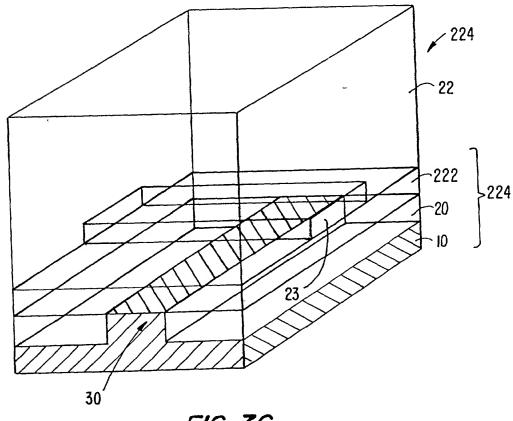
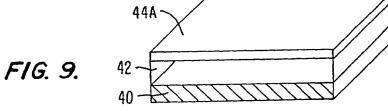
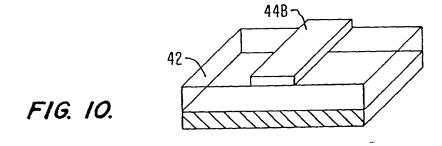


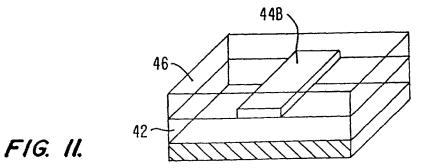
FIG. 7G.

Application No.: 09/826,583
Applicant: Marc Unger, et al.
Title: MICROFABRICATED ELASTOMERIC VALVE AND PUMP SYSTEMS
, Sheet 6 of 52

FIG. 8. 42 40







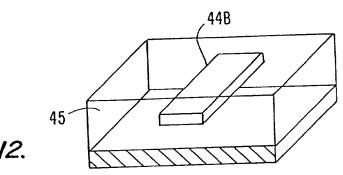


FIG. 12.

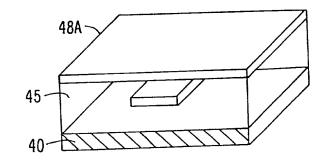


FIG. 13.

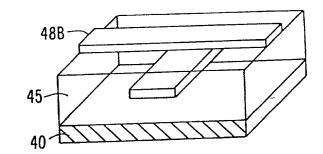
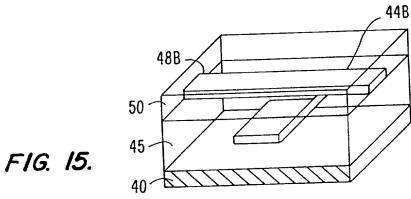
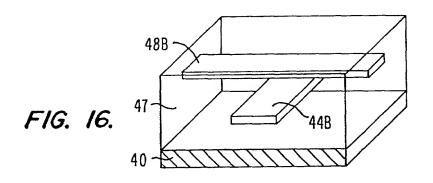
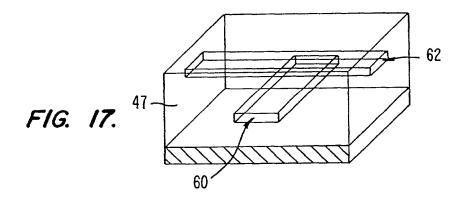
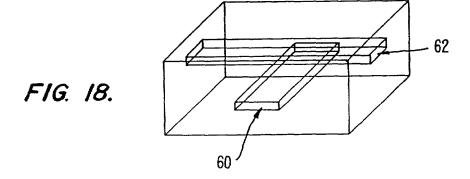


FIG. 14.









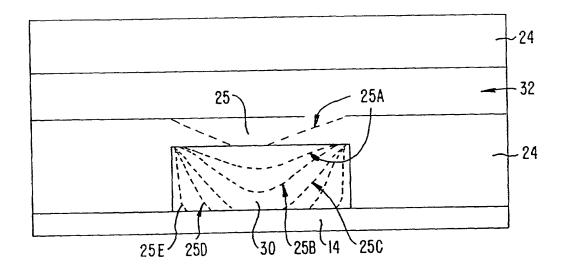


FIG. 19.

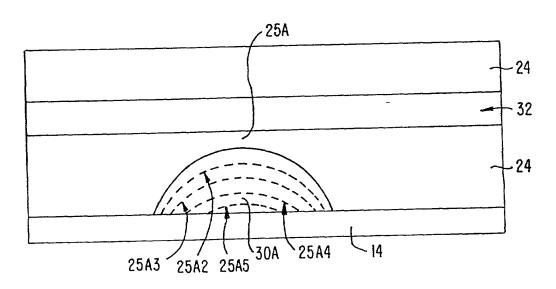
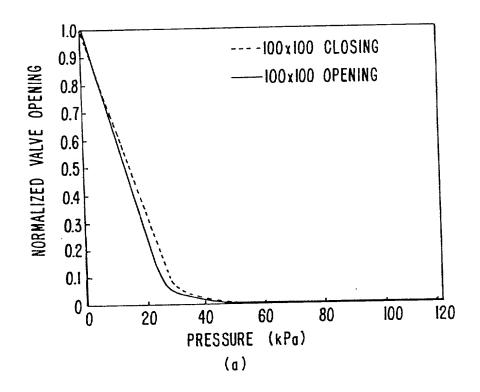


FIG. 20.



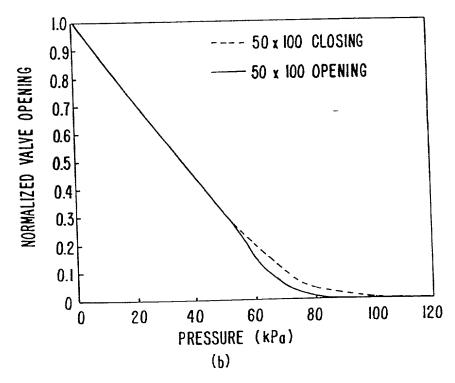
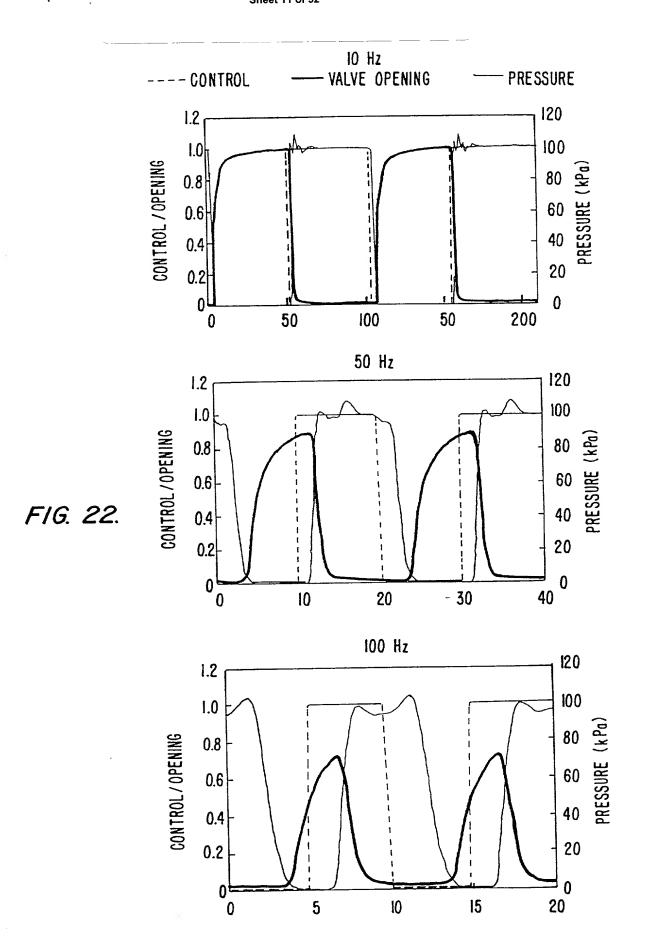


FIG. 21.

Application No.: 09/826,583
Applicant: Marc Unger, et al.
Title: MICROFABRICATED ELASTOMERIC VALVE AND PUMP SYSTEMS
Sheet 11 of 52



Application No.: 09/826,583
Applicant: Marc Unger, et al.
Title: MICROFABRICATED ELASTOMERIC VALVE AND PUMP SYSTEMS
Sheet 12 of 52

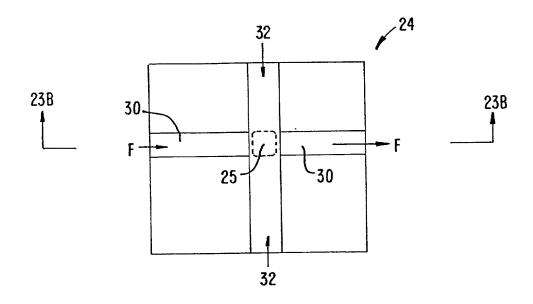


FIG. 23A.

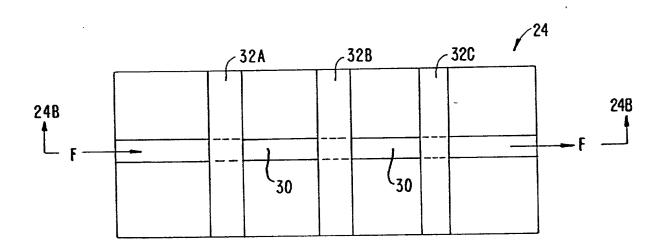


FIG. 24A.

Application No.: 09/826,583
Applicant: Marc Unger, et al.
Title: MICROFABRICATED ELASTOMERIC VALVE AND PUMP SYSTEMS
Sheet 13 of 52

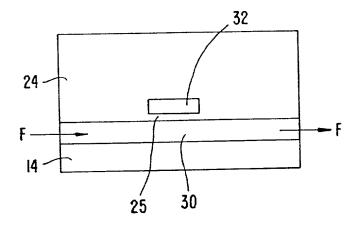


FIG. 23B.

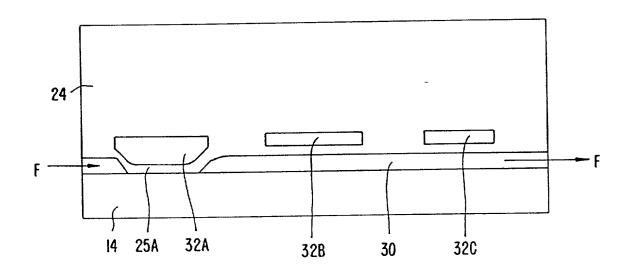


FIG. 24B.

Application No.: 09/826,583
Applicant: Marc Unger, et al.
Title: MICROFABRICATED ELASTOMERIC VALVE AND PUMP SYSTEMS
Sheet 14 of 52

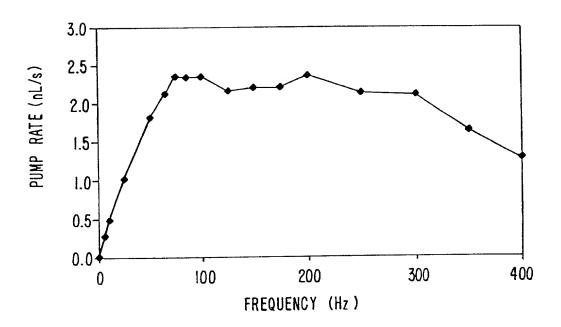


FIG. 25.

Application No.: 09/826,583
Applicant: Marc Unger, et al.
Title: MICROFABRICATED ELASTOMERIC VALVE AND PUMP SYSTEMS
Sheet 15 of 52

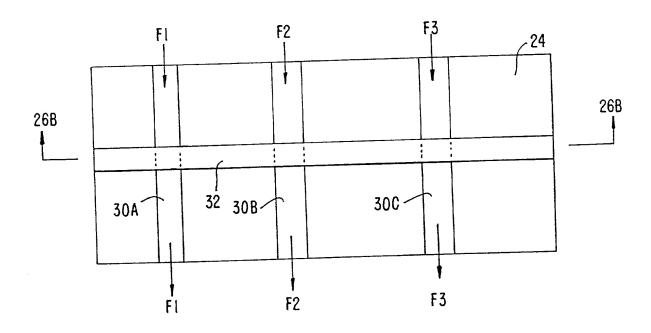


FIG. 26A.

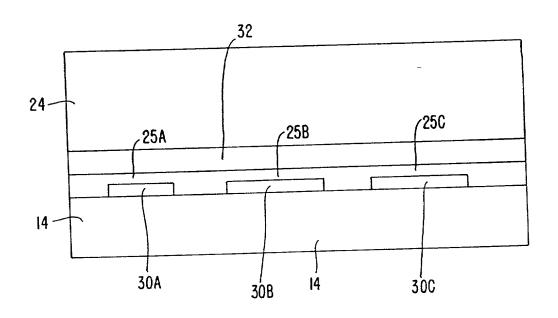
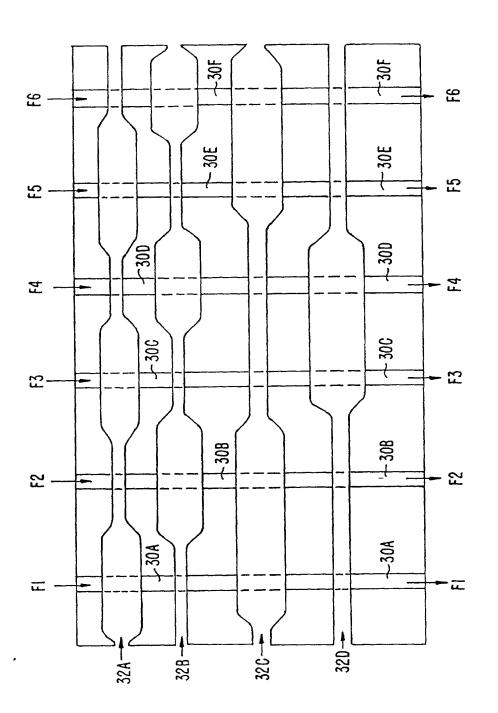


FIG. 26B.

Application No.: 09/826,583
Applicant: Marc Unger, et al.
Title: MICROFABRICATED ELASTOMERIC VALVE AND PUMP SYSTEMS
Sheet 16 of 52



F16. 27.

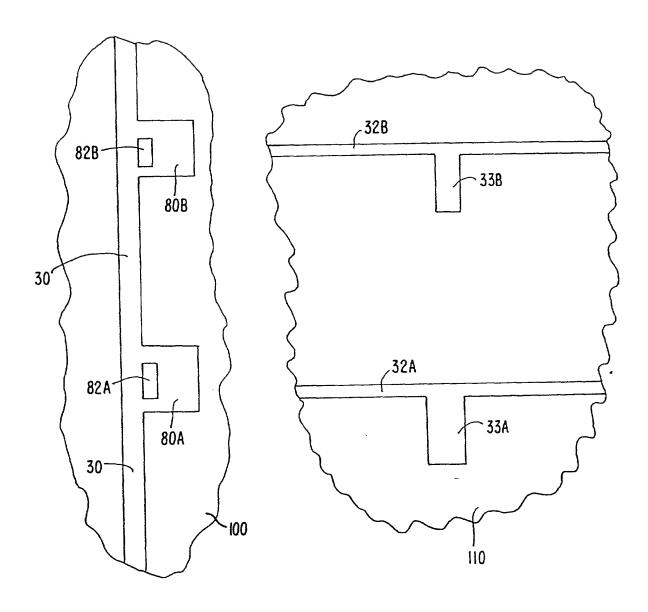


FIG. 28A.

FIG. 28B.

Application No.: 09/826,583
Applicant: Marc Unger, et al.
Title: MICROFABRICATED ELASTOMERIC VALVE AND PUMP SYSTEMS
. Sheet 18 of 52

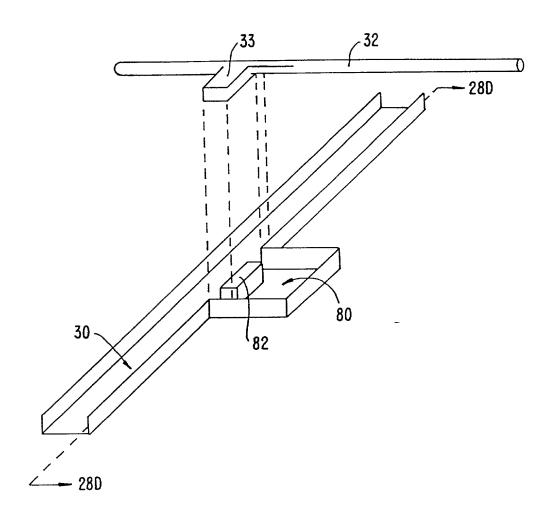
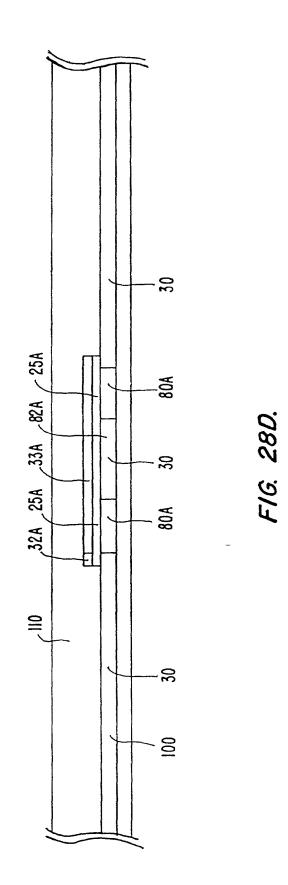


FIG. 28C.

Application No.: 09/826,583
Applicant: Marc Unger, et al.
Title: MICROFABRICATED ELASTOMERIC VALVE AND PUMP SYSTEMS
Sheet 19 of 52



Application No.: 09/826,583
Applicant: Marc Unger, et al.
Title: MICROFABRICATED ELASTOMERIC VALVE AND PUMP SYSTEMS
Sheet 20 of 52

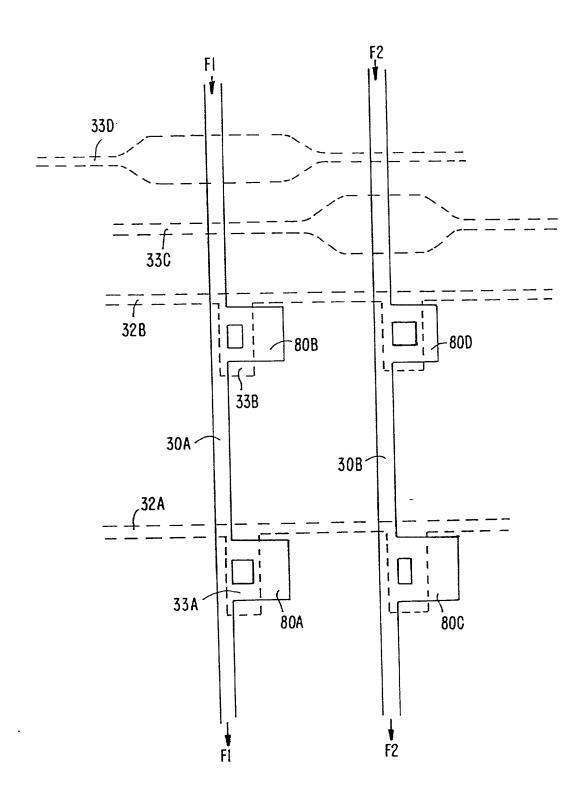


FIG. 29.

Application No.: 09/826,583
Applicant: Marc Unger, et al.
Title: MICROFABRICATED ELASTOMERIC VALVE AND PUMP SYSTEMS
Sheet 21 of 52

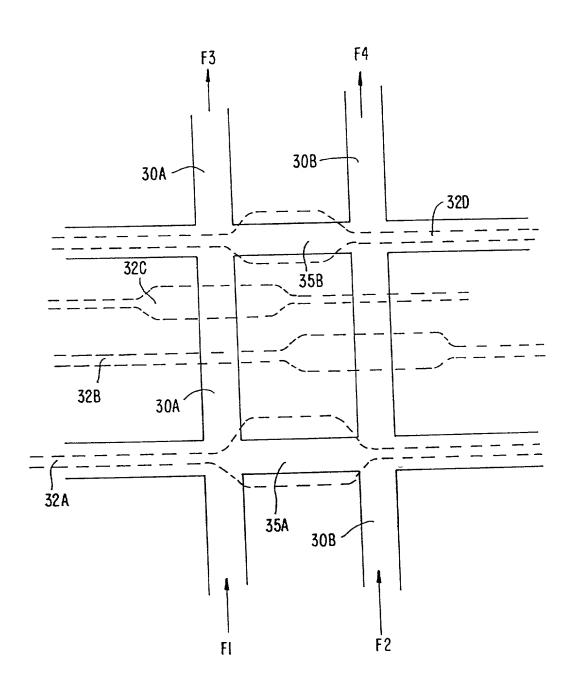


FIG. 30.

Application No.: 09/826,583
Applicant: Marc Unger, et al.
Title: MICROFABRICATED ELASTOMERIC VALVE AND PUMP SYSTEMS
Sheet 22 of 52

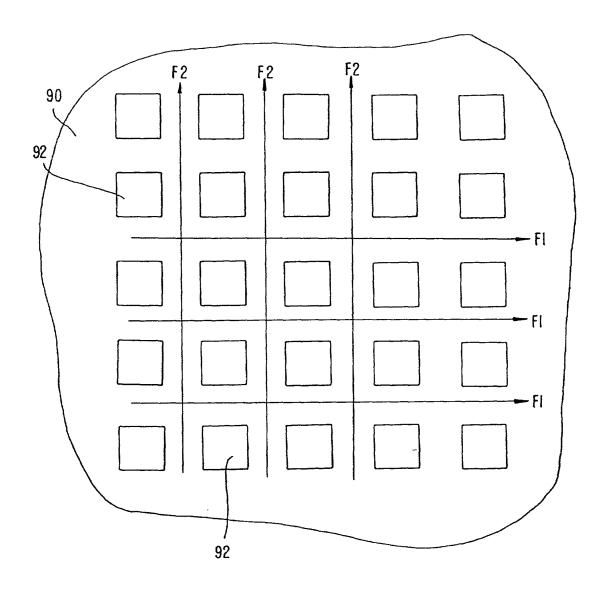


FIG. 31A.

Application No.: 09/826,583
Applicant: Marc Unger, et al.
Title: MICROFABRICATED ELASTOMERIC VALVE AND PUMP SYSTEMS
Sheet 23 of 52

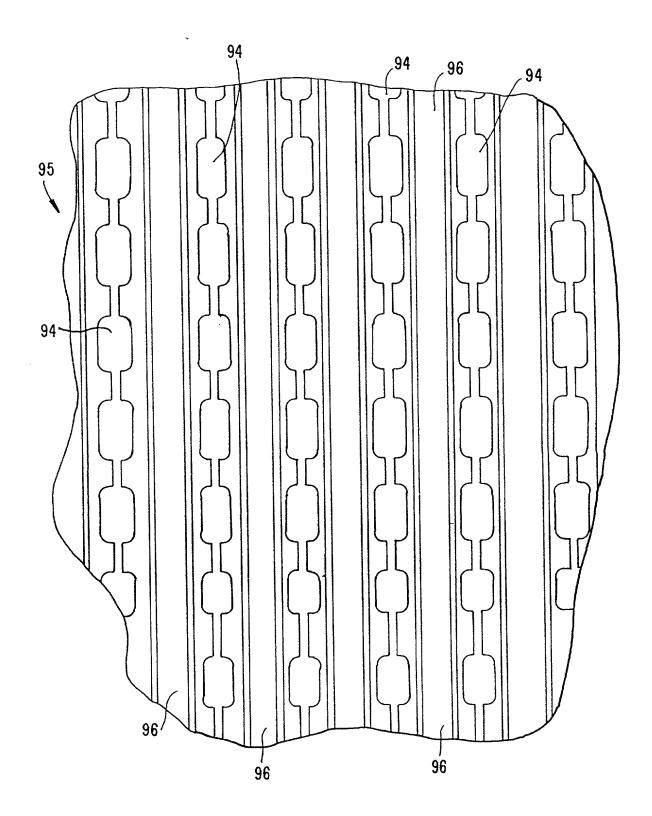


FIG. 3IB.

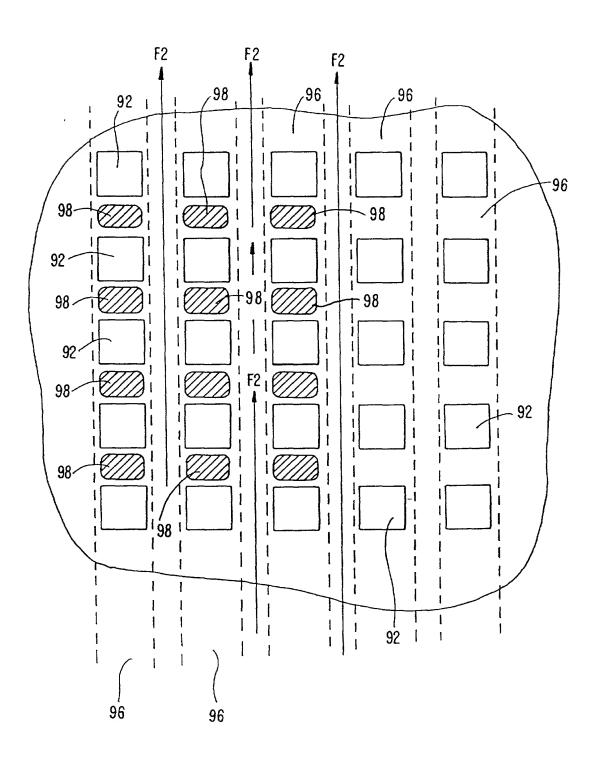


FIG. 3IC.

Application No.: 09/826,583
Applicant: Marc Unger, et al.
Title: MICROFABRICATED ELASTOMERIC VALVE AND PUMP SYSTEMS
Sheet 25 of 52

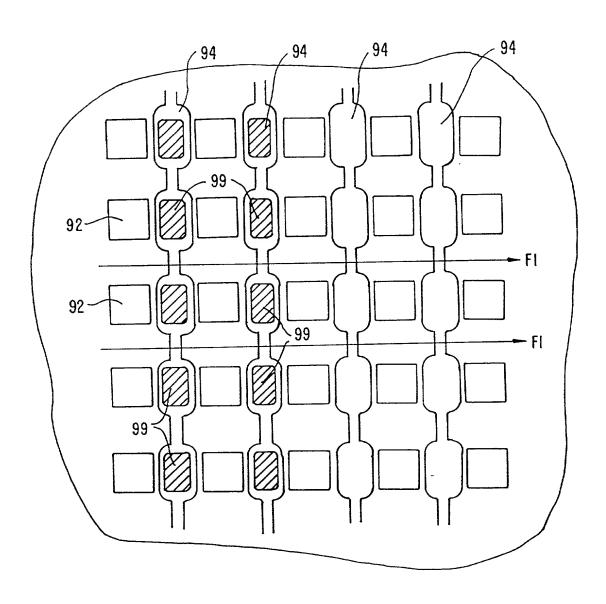


FIG. 31D.

Application No.: 09/826,583
Applicant: Marc Unger, et al.
Title: MICROFABRICATED ELASTOMERIC VALVE AND PUMP SYSTEMS
Sheet 26 of 52

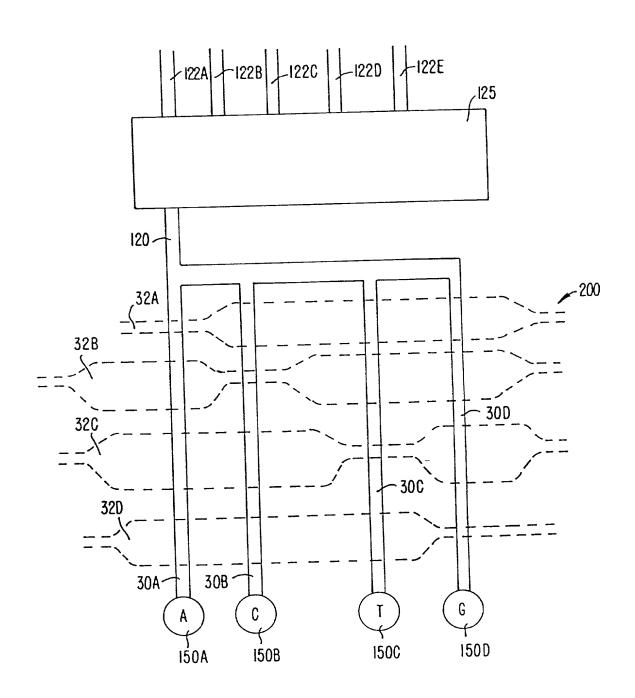


FIG. 32.

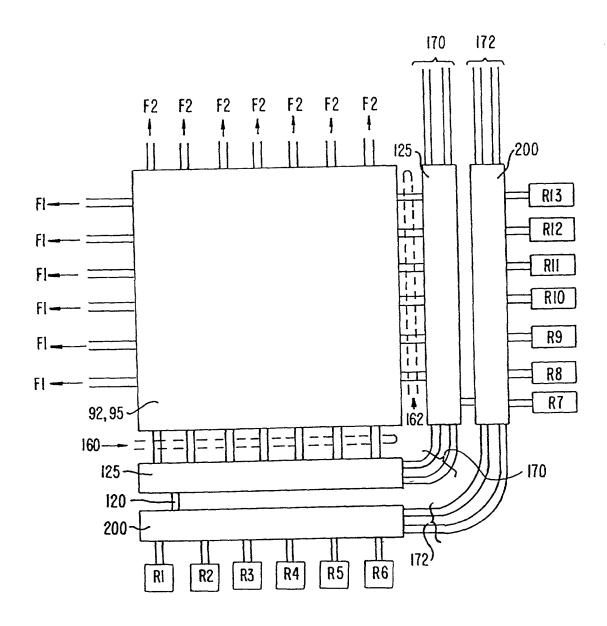


FIG. 33.

Application No.: 09/826,583
Applicant: Marc Unger, et al.
Title: MICROFABRICATED ELASTOMERIC VALVE AND PUMP SYSTEMS
Sheet 28 of 52

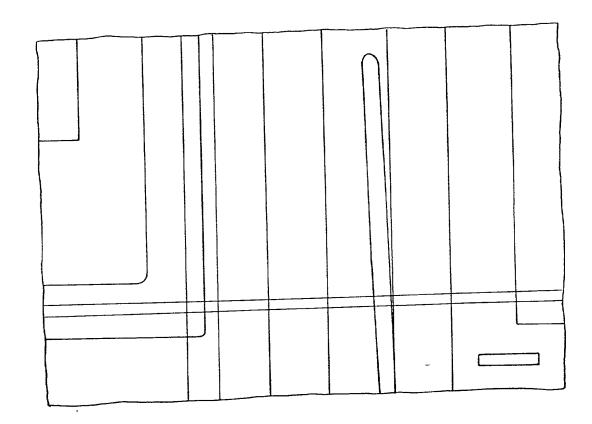
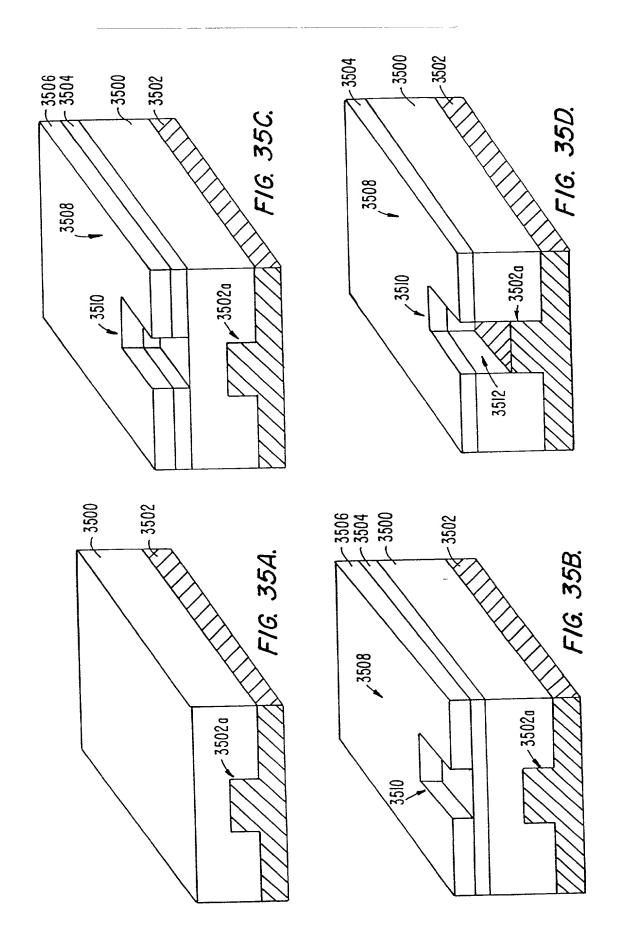


FIG. 34.

Application No.: 09/826,583
Applicant: Marc Unger, et al.
Title: MICROFABRICATED ELASTOMERIC VALVE AND PUMP SYSTEMS
Sheet 29 of 52

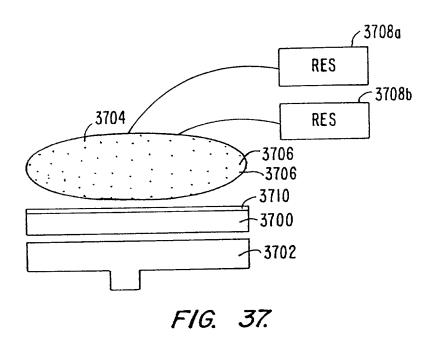


Application No.: 09/826,583

Applicant: Marc Unger, et al.

Title: MICROFABRICATED ELASTOMERIC VALVE AND PUMP SYSTEMS

Sheet 30 of 52



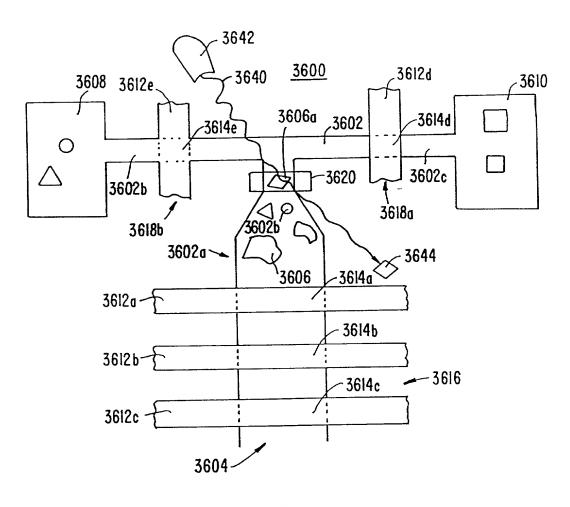
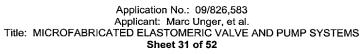


FIG. 36.



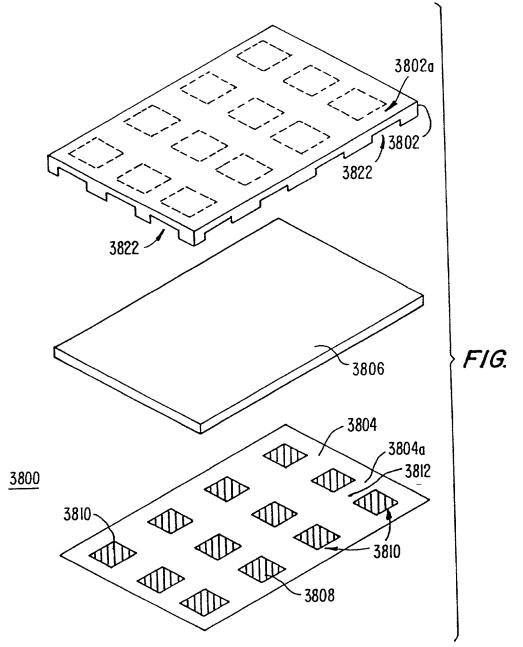


FIG. 38A.

Application No.: 09/826,583
Applicant: Marc Unger, et al.
Title: MICROFABRICATED ELASTOMERIC VALVE AND PUMP SYSTEMS
Sheet 32 of 52

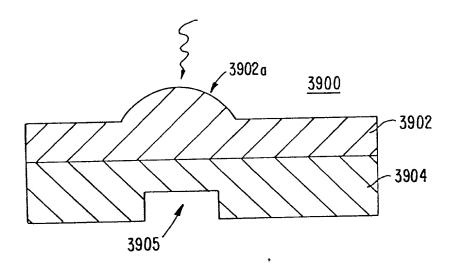


FIG. 39.

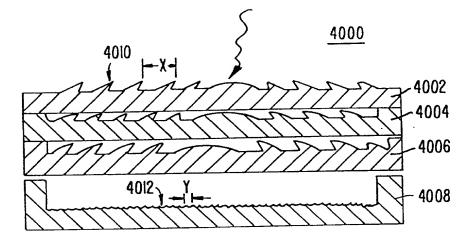
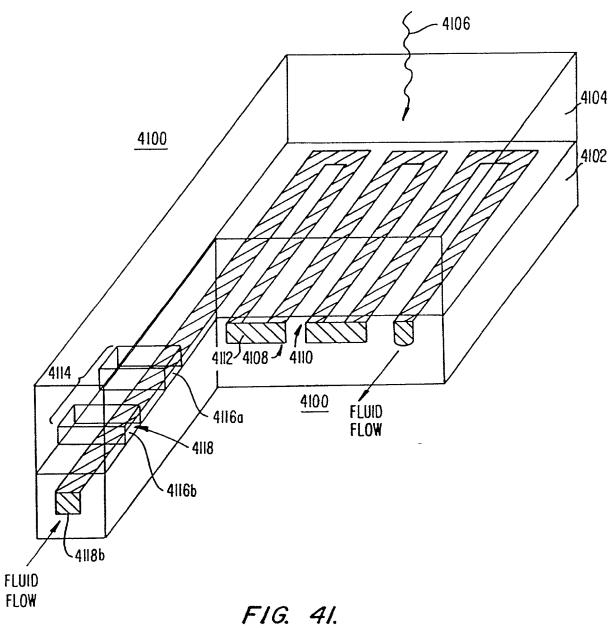


FIG. 40.

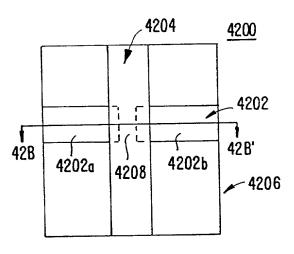
Application No.: 09/826,583
Applicant: Marc Unger, et al.
Title: MICROFABRICATED ELASTOMERIC VALVE AND PUMP SYSTEMS
Sheet 33 of 52



Application No.: 09/826,583 Applicant: Marc Unger, et al.

Title: MICROFABRICATED ELASTOMERIC VALVE AND PUMP SYSTEMS

Sheet 34 of 52



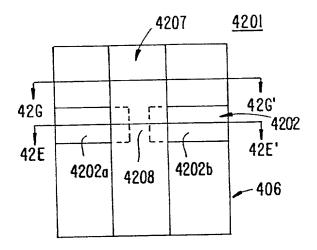
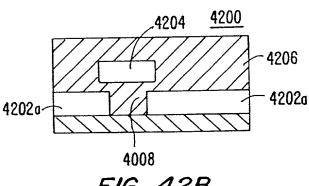


FIG. 42A.

FIG. 42D.



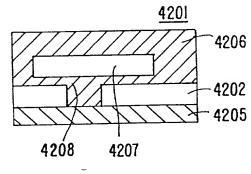


FIG. 42B.

FIG. 42E.

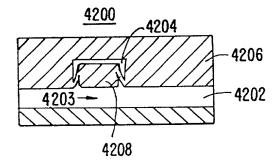


FIG. 42C.

Application No.: 09/826,583
Applicant: Marc Unger, et al.
Title: MICROFABRICATED ELASTOMERIC VALVE AND PUMP SYSTEMS
Sheet 35 of 52

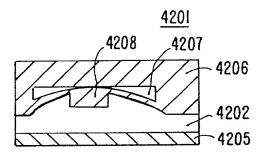
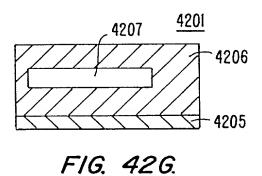


FIG. 42F.



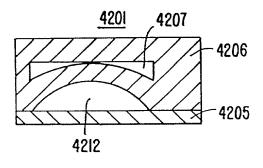


FIG. 42H.

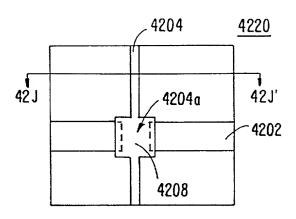


FIG. 42I.

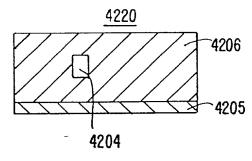


FIG. 42J.

Application No.: 09/826,583
Applicant: Marc Unger, et al.
Title: MICROFABRICATED ELASTOMERIC VALVE AND PUMP SYSTEMS
Sheet 36 of 52

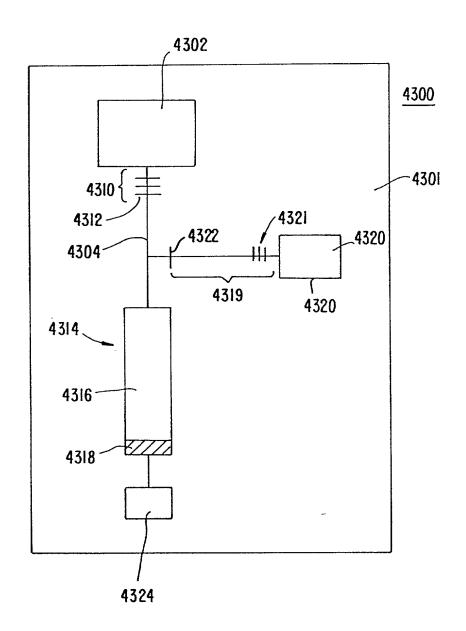
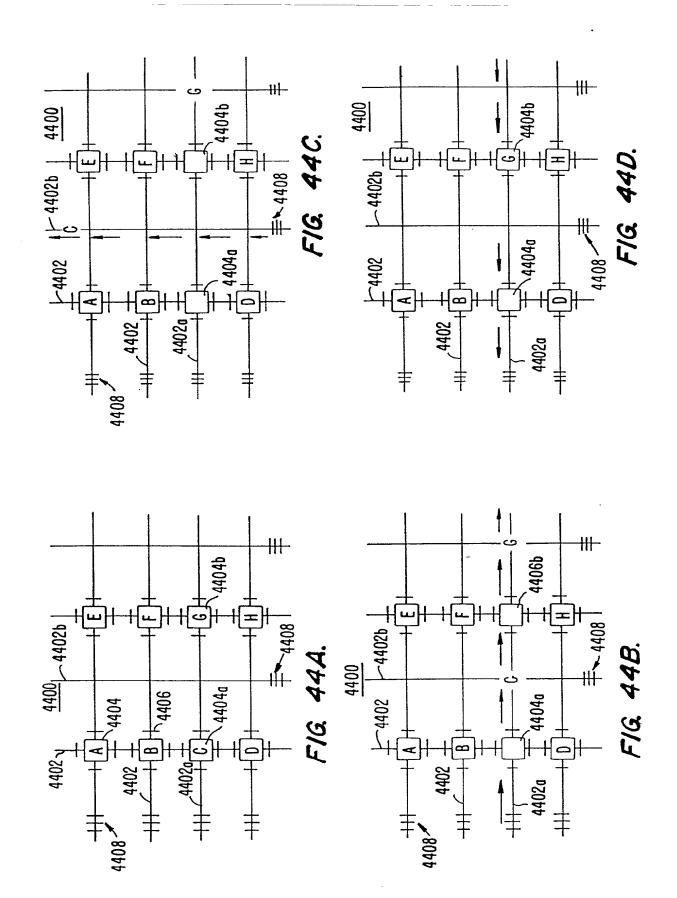
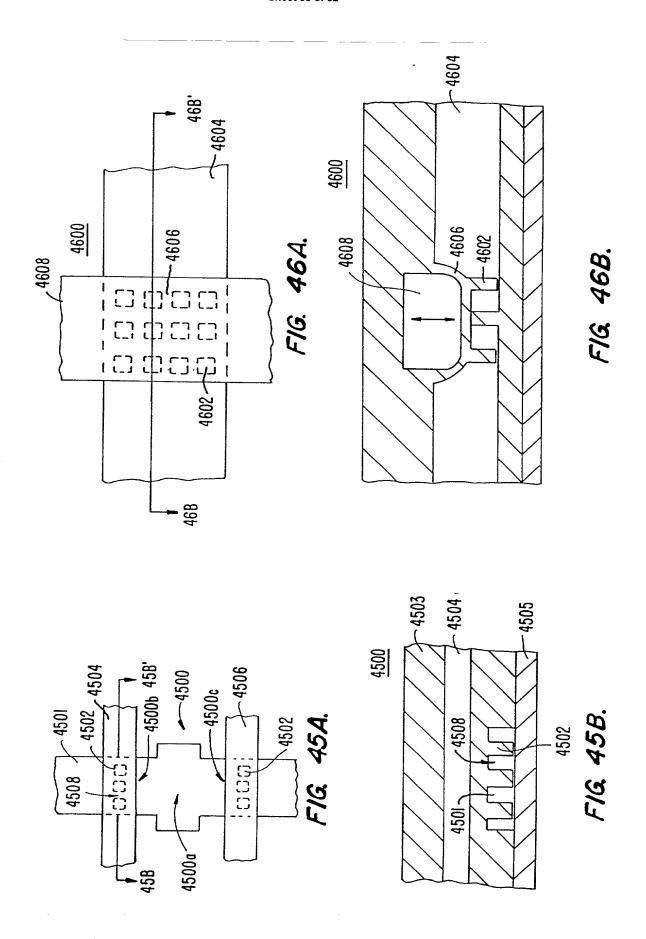


FIG. 43.



Application No.: 09/826,583
Applicant: Marc Unger, et al.
Title: MICROFABRICATED ELASTOMERIC VALVE AND PUMP SYSTEMS
Sheet 38 of 52



Application No.: 09/826,583
Applicant: Marc Unger, et al.
Title: MICROFABRICATED ELASTOMERIC VALVE AND PUMP SYSTEMS
Sheet 39 of 52

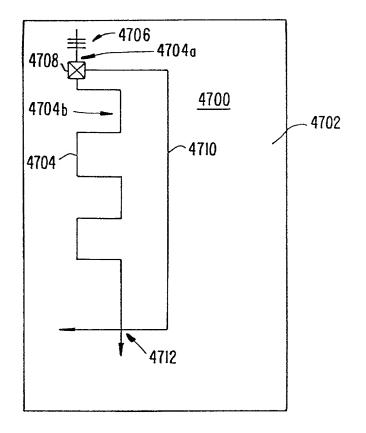
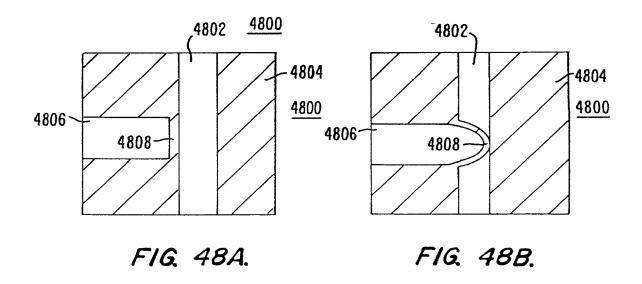
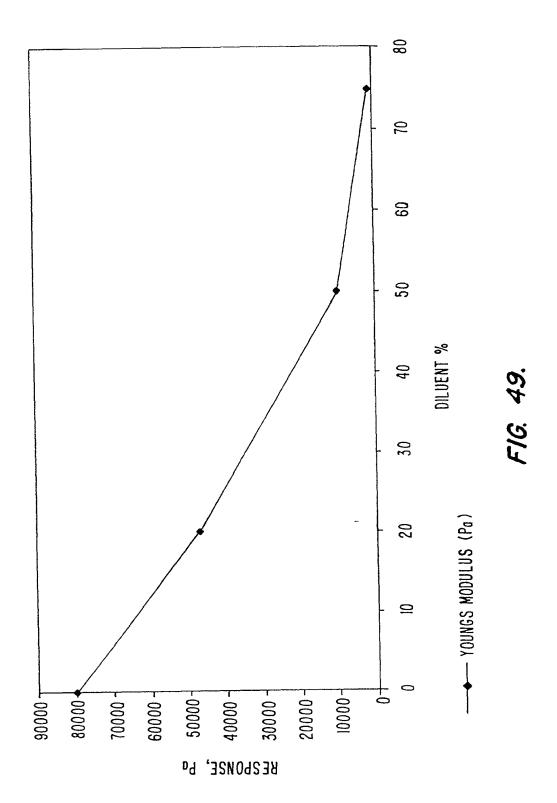


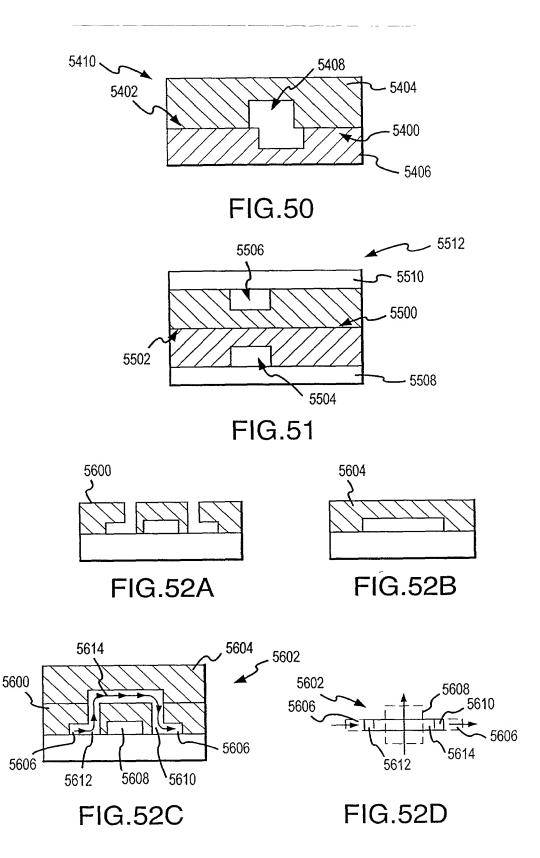
FIG. 47.



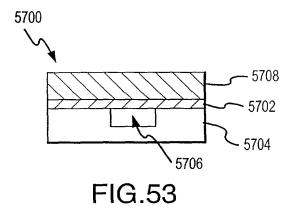
Application No.: 09/826,583
Applicant: Marc Unger, et al.
Title: MICROFABRICATED ELASTOMERIC VALVE AND PUMP SYSTEMS
Sheet 40 of 52



Application No.: 09/826,583
Applicant: Marc Unger, et al.
Title: MICROFABRICATED ELASTOMERIC VALVE AND PUMP SYSTEMS
Sheet 41 of 52



Application No.: 09/826,583
Applicant: Marc Unger, et al.
Title: MICROFABRICATED ELASTOMERIC VALVE AND PUMP SYSTEMS
Sheet 42 of 52



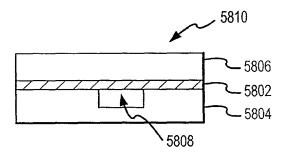


FIG.54

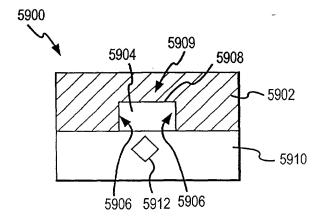
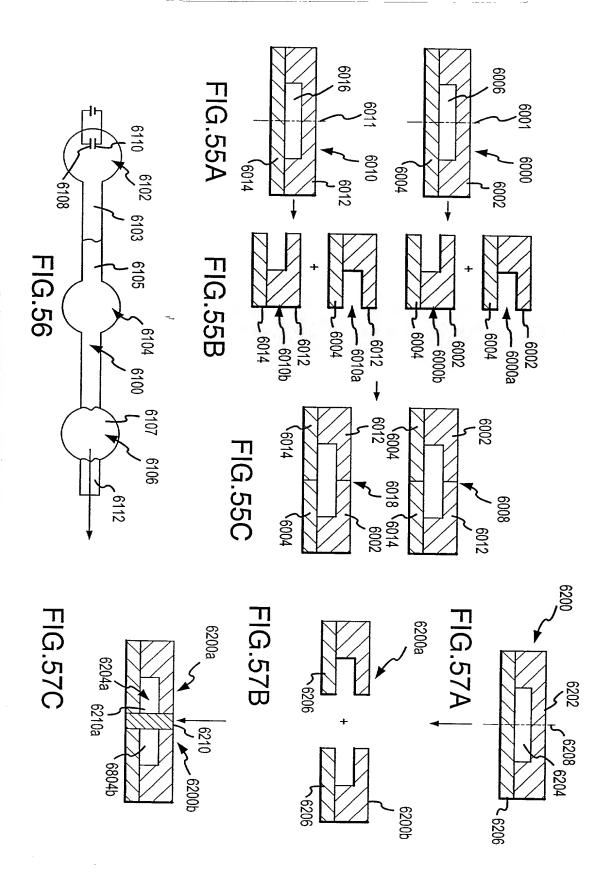


FIG.55



Application No.: 09/826,583 Applicant: Marc Unger, et al. Title: MICROFABRICATED ELASTOMERIC VALVE AND PUMP SYSTEMS Sheet 44 of 52

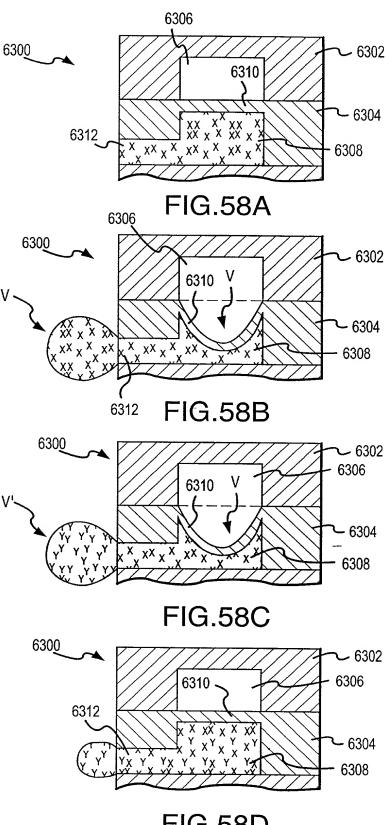
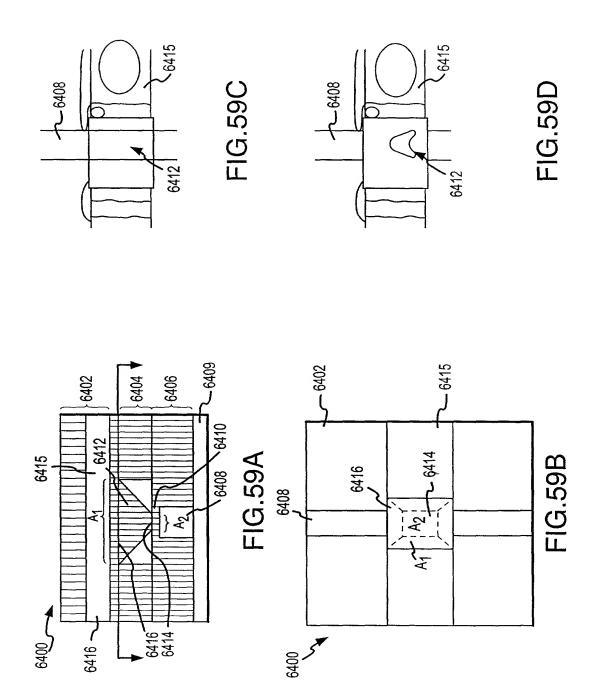
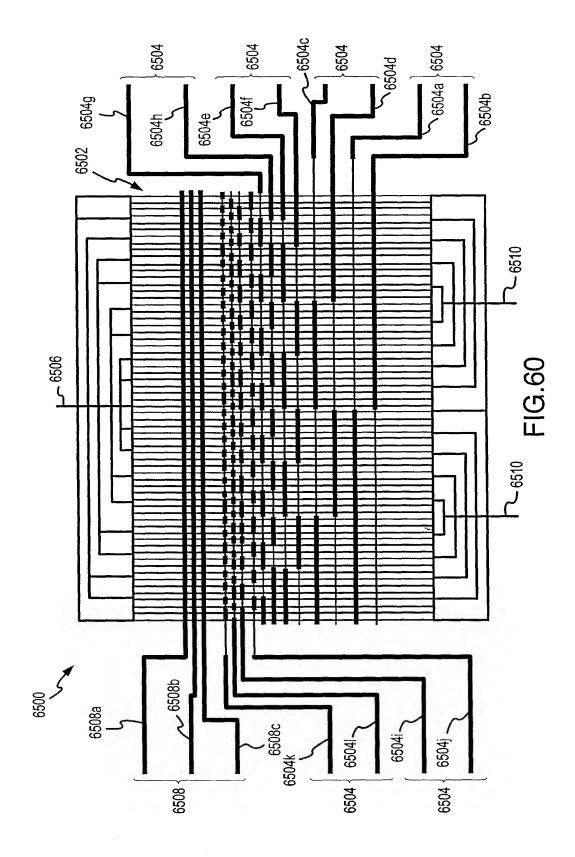


FIG.58D

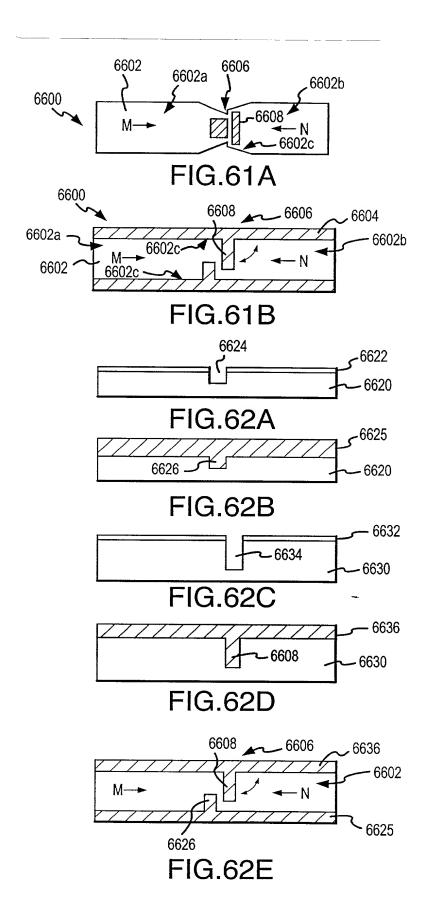
Application No.: 09/826,583
Applicant: Marc Unger, et al.
Title: MICROFABRICATED ELASTOMERIC VALVE AND PUMP SYSTEMS
Sheet 45 of 52



Application No.: 09/826,583
Applicant: Marc Unger, et al.
Title: MICROFABRICATED ELASTOMERIC VALVE AND PUMP SYSTEMS
Sheet 46 of 52

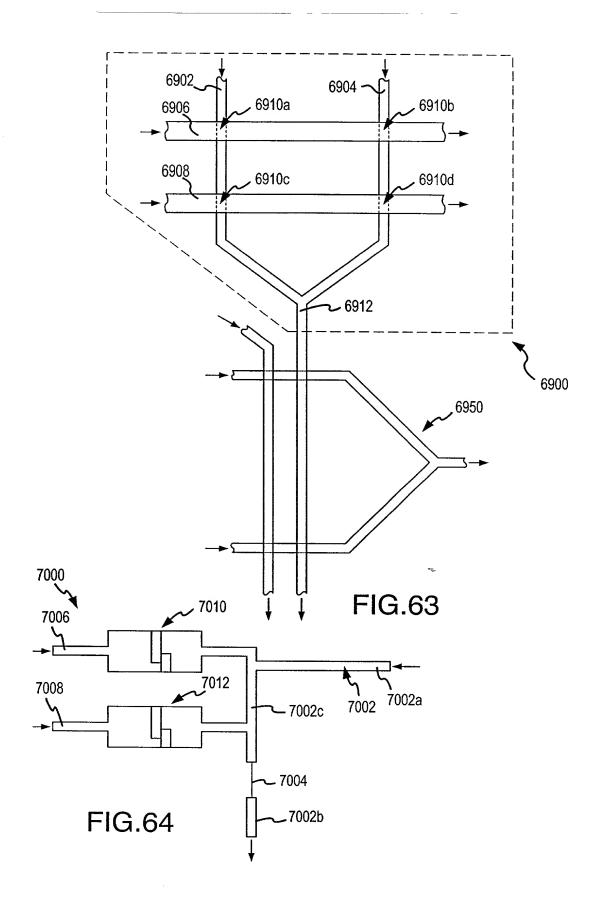


Application No.: 09/826,583
Applicant: Marc Unger, et al.
Title: MICROFABRICATED ELASTOMERIC VALVE AND PUMP SYSTEMS
Sheet 47 of 52

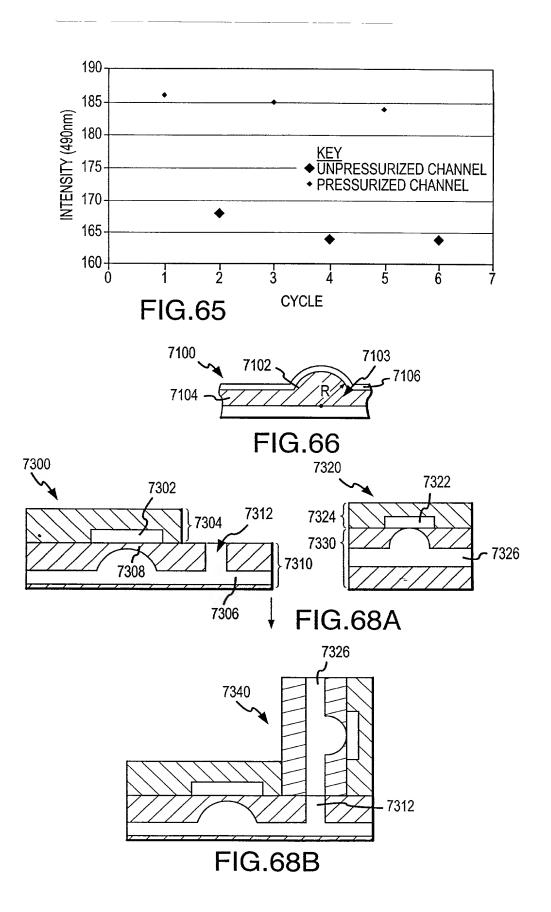


Application No.: 09/826,583
Applicant: Marc Unger, et al.
Title: MICROFABRICATED ELASTOMERIC VALVE AND PUMP SYSTEMS
Sheet 48 of 52

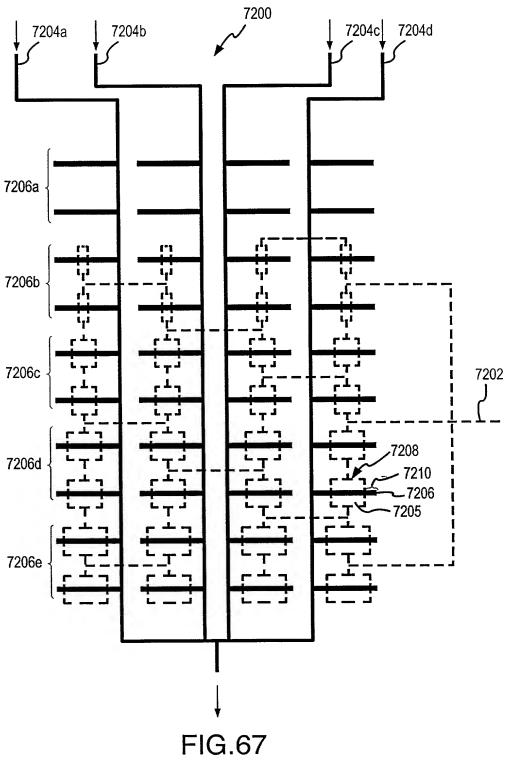




Application No.: 09/826,583
Applicant: Marc Unger, et al.
Title: MICROFABRICATED ELASTOMERIC VALVE AND PUMP SYSTEMS
Sheet 49 of 52



Application No.: 09/826,583
Applicant: Marc Unger, et al.
Title: MICROFABRICATED ELASTOMERIC VALVE AND PUMP SYSTEMS
Sheet 50 of 52



Application No.: 09/826,583
Applicant: Marc Unger, et al.
Title: MICROFABRICATED ELASTOMERIC VALVE AND PUMP SYSTEMS
Sheet 51 of 52

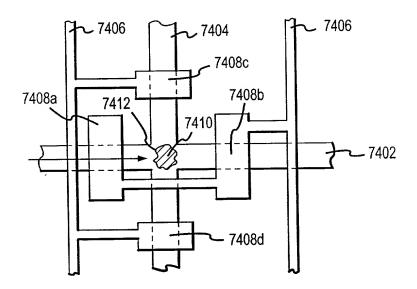


FIG.69A

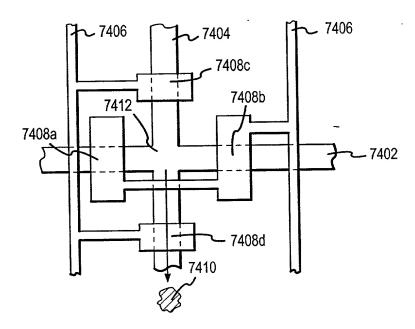


FIG.69B

Application No.: 09/826,583
Applicant: Marc Unger et al.
Title: MICROFABRICATED ELASTOMERIC VALVE AND PUMP SYSTEMS
Sheet 52 of 52

52/52

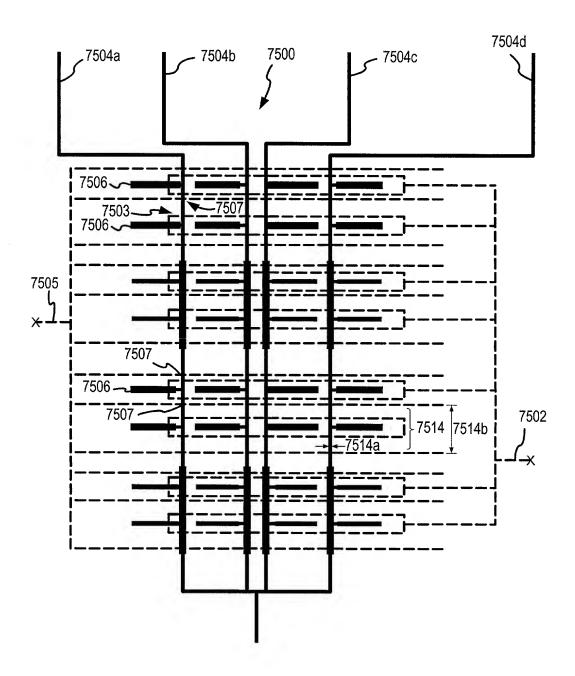


FIG.70